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PTO/SB/05 (4/98)
Approved for use through 09/30/2000. OMB 0651-0032
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))

Attorney Docket No.	51000.P023
First Inventor or Application Identifier	Jeffrey B. Sponaugle
Title	M & A For Establishing a Voice Call By Way Of An Electronic Mail Message
Express Mail Label No.	EK803349145US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231

1. [XX] * Fee Transmittal Form *(e.g., PTO/SB/17)* *(Submit an original and a duplicate for fee processing)*
2. [XX] Specification [Total Pages 31] *(preferred arrangement set forth below)*
   - Descriptive title of the Invention
   - Cross References to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to Microfiche Appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings *(if filed)*
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
3. [XX] Drawing(s) *(35 U.S.C. 113)* [Total Sheets 7]
4. Oath or Declaration (unsigned) [Total Pages 4]
   a. ☐ Newly executed (original or copy)
   b. ☐ Copy from a prior application (37 C.F.R. § 1.63(d)) *(for continuation/divisional with Box 16 completed)*
      i. ☐ DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

5. ☐ Microfiche Computer Program *(Appendix)*
6. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
   a. ☐ Computer Readable Copy
   b. ☐ Paper Copy (identical to computer copy)
   c. ☐ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

7. ☐ Assignment Papers (cover sheet & document(s))
8. ☐ 37 C.F.R.§3.73(b) Statement *(when there is an assignee)* ☐ Power of Attorney
9. ☐ English Translation Document *(if applicable)*
10. ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
11. ☐ Preliminary Amendment
12. [XX] Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
13. ☐ * Small Entity Statement(s) *(PTO/SB/09-12)* ☐ Statement filed in prior application, Status still proper and desired
14. ☐ Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
15. ☐ Other: .....

16. **If a CONTINUING APPLICATION,** *check appropriate box, and supply the requisite information below and in a preliminary amendment:*

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: _____/_____

Prior application information: Examiner _____ *Group / Art Unit:* _____

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS

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Signature		Date	10/23/00

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Small Entity payments must be supported by a small entity statement, otherwise large entity fees must be paid. See Forms PTO/SB/09-12. See 37 C.F.R. §§ 1.27 and 1.28.

TOTAL AMOUNT OF PAYMENT ($)

Complete if Known	
Application Number	Not yet assigned
Filing Date	October 23, 2000
First Named Inventor	Jeffrey B. Sponaugle
Examiner Name	
Group / Art Unit	
Attorney Docket No.	51000.P023

METHOD OF PAYMENT (check one)

1. ☐ The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit Account Number

Deposit Account Name

☐ Charge Any Additional Fee Required Under 37 CFR §§ 1.16 and 1.17

2. ☐ **Payment Enclosed:**
☐ Check ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
101	690	201	345	Utility filing fee	710.00
106	310	206	155	Design filing fee	
107	480	207	240	Plant filing fee	
108	690	208	345	Reissue filing fee	
114	150	214	75	Provisional filing fee	

SUBTOTAL (1) ($) 710.00

2. EXTRA CLAIM FEES

	Extra Claims		Fee from below	Fee Paid
Total Claims 36	-20** = 16	X	18.00	= 288.00
Independent Claims 4	- 3** = 1	X	80.00	= 80.00
Multiple Dependent				=

**or number previously paid, if greater; For Reissues, see below

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
103	18	203	9	Claims in excess of 20
102	78	202	39	Independent claims in excess of 3
104	260	204	130	Multiple dependent claim, if not paid
109	78	209	39	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 368.00

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet.	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	380	216	190	Extension for reply within second month	
117	870	217	435	Extension for reply within third month	
118	1,360	218	680	Extension for reply within fourth month	
128	1,850	228	925	Extension for reply within fifth month	
119	300	219	150	Notice of Appeal	
120	300	220	150	Filing a brief in support of an appeal	
121	260	221	130	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,210	241	605	Petition to revive - unintentional	
142	1,210	242	605	Utility issue fee (or reissue)	
143	430	243	215	Design issue fee	
144	580	244	290	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	240	126	240	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	690	246	345	Filing a submission after final rejection (37 CFR § 1.129(a))	
149	690	249	345	For each additional invention to be examined (37 CFR § 1.129(b))	

Other fee (specify) _____

Other fee (specify) _____

* Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($)

SUBMITTED BY				Complete (if applicable)	
Name (Print/Type)	Jason K. Klindtworth	Registration No. (Attorney/Agent)	47,211	Telephone	(503) 534-2800
Signature				Date	10/23/00

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51000.P023 *Patent*

UNITED STATES PATENT APPLICATION

FOR

METHOD AND APPARATUS FOR ESTABLISHING A VOICE CALL BY WAY OF AN ELECTRONIC MAIL MESSAGE

INVENTORS:

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EXPRESS MAIL LABEL NO. EK803349145US

METHOD AND APPARATUS FOR ESTABLISHING A VOICE CALL BY WAY OF AN ELECTRONIC MAIL MESSAGE

FIELD OF THE INVENTION

The invention relates generally to the field of telecommunications and, in particular to a method and apparatus for establishing a voice call by way of an electronic mail message.

BACKGROUND OF THE INVENTION

In recent years, information technology including personal computer, telecommunication, and television technologies have begun to converge, whereby clear demarcations that once separated the various technologies have blurred. This "convergence" may be attributed, at least in part, to the explosive growth of the Internet.

Internet based voice communication is one advance in the telecommunications industry that has been made possible through the growth of the Internet. For example, calls that were once required to be managed by the public switched telephone network (PSTN) that assigns a dedicated communication line or circuit for each user to complete a telephone call, may now be connected through the shared medium of the Internet by breaking the voice data into varying sized packages or "packets," and transmitting them over the shared medium of the Internet.

The Internet Protocol (IP) is a protocol utilized throughout the Internet to interleave and transmit data packets so as to best utilize the available bandwidth at any given time. Voice over IP (VoIP) is a term used to describe a set of services for

managing the delivery of voice information using the Internet protocol. Various software products on the market provide VoIP services that enable two parties (e.g., caller and callee) to communicate with each other through the Internet. In order to do so, however, each of the parties to the VoIP call are typically required to communicate through hardware utilizing compatible voice encoders or "CODECs." Although emerging standards such as the International Telecommunication Union's (ITU) H.323 standard attempts to alleviate the CODEC compatibility issue, the parties to the call are nonetheless each required to communicate through a computer system or appliance equipped to place and/or receive VoIP calls. Unfortunately, however, not everyone has access to such VoIP equipped hardware. In fact, given the wide availability of PSTN handsets and their associated ease of use, even those who have access to such VoIP equipped hardware may nonetheless prefer to communicate via the more commonplace PSTN handsets.

U.S. Patent number 6,026,087, titled "Method and Apparatus for Establishing a Voice Call to a PSTN Extension for a Networked Client Computer" (having a common assignee with the present application) addresses the need for bridging the Internet and packet based devices with conventional PSTN handsets. Accordingly, a user of a networked computer can place a voice call to a PSTN extension (equipped with merely a conventional handset) rather than being limited to placing a voice call to only VoIP equipped hardware. Although this goes a long way towards integrating the VoIP functionality of the Internet with the PSTN, further integration remains desirable.

SUMMARY OF THE INVENTION

A method and apparatus for establishing a voice call by way of an electronic mail (email) message is provided. According to one embodiment of the invention, a first party (i.e. offeror), generates or causes to be generated, an electronic token representing an offer to participate in a voice which is transmitted to an offeree party in association with an email message. Upon receiving the electronic token, the offeree has the option of accepting the offer by activating the electronic token. When the offeree activates the electronic token, a first voice call is established with the offeree and a second voice call is established with a destination party identified by the offeror. Once the two calls have been established, they are bridged together to place the offeree in voice communication with the destination party. In one embodiment, the destination party is the offeror.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is illustrated by way of example, and not by way of limitation in the figures of the accompanying drawings in which like reference numerals refer to similar elements.

Figure 1 is a block diagram illustrating an exemplary communication system incorporating the teachings of the present invention.

Figure 2 is a flow diagram illustrating one embodiment of a method for establishing a voice communication session between two parties by way of an electronic mail message.

Figures 3(a-f) are graphical illustrations, each representing various data input dialogs presented to an offeror in association with generation of one or more the tokens according to one embodiment of the present invention.

Figure 4 is a graphical representation illustrating one embodiment of how an electronic token generated in accordance with the teachings of the present invention, may be displayed in association with an electronic mail message.

Figure 5 is a graphical representation illustrating one embodiment of how a received electronic mail message may be displayed in accordance with the teachings of the present invention.

Figure 6 illustrates an example computer system suitable for use as a web server and/or one or more of client computers incorporating the teachings of the present invention.

Figure 7 illustrates two exemplary XML data structures each representing an electronic token according to one embodiment of the present invention.

DETAILED DESCRIPTION

A method and apparatus for establishing a voice call by way of an electronic mail message is disclosed herein. As will be described in further detail below, a first party (i.e. offeror), generates or causes to be generated, an electronic token representing an offer to an eventual offeree to participate in a voice call. According to one embodiment of the invention, the offeror transmits the electronic token to an offeree in association with an email message. Upon receiving the electronic token, the offeree has the option of accepting the offer by activating the electronic token. According to one embodiment of the invention, when the offeree activates the electronic token, a first voice call is established with the offeree and a second voice call is established with an identified destination party. Once the two calls have been established, they are bridged together to place the offeree in voice communication with the destination party. In one embodiment, the destination party is the offeror.

In the following description, for purposes of explanation, specific numbers, materials and configurations are set forth in order to provide a thorough understanding of the invention. It will be apparent, however, to one skilled in the art that the invention may be practiced without these specific details. In some instances, structures and devices are shown in block diagram form in order to avoid obscuring the invention. In other instances, well known features are omitted or simplified in order not to obscure the present invention. For ease of understanding, certain method steps are delineated as separate steps, however, these separately delineated steps should not be construed as necessarily order dependent in their performance. Furthermore, reference in the

specification to "one embodiment" or "an embodiment" means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the invention. The appearances of the phrase "in one embodiment" in various places in the specification are not necessarily all referring to the same embodiment.

In **Figure 1**, a block diagram is presented illustrating an exemplary communication system **100** incorporating the teachings of the present invention. While the present invention will be described in the context of this exemplary communication system, based on the descriptions to follow, those skilled in the art will appreciate that the present invention is not limited to this embodiment. Referring now to **Figure 1**, client computers **102**, **108** and **116**, handsets **142** and **117**, web server **128**, and bridgeports **162** and **165** are communicatively coupled to each other by way of PSTN **140** and Internet **150** as shown.

Except for the teachings of the present invention (to be more fully described below), client computers **102**, **108** and **116** are intended to represent a broad category of Internet telephony enabled computer systems known in the art. **Figure 6** illustrates an example computer system suitable for use as one or more of client computers **102**, **108** and **116** and/or web server **128**. As shown, system **600** includes one or more processors **602**, such as a PENTIUM™ processor manufactured by Intel Corporation of Santa Clara, California; System memory **606**, including both operating system **615**, such as WINDOWS™ 95, 98, or 2000 with internetworking communication and socket

services, and one or more applications **616**; Mass storage devices **607**, such as a diskette drive, hard drive, CDROM and so forth; GPIO **608** for interfacing with I/O devices such as a keyboard and cursor control devices, and for inputting, digitizing and compressing outbound audio, and for decompressing and rendering inbound audio; and Communication interfaces **612**, such as MODEMs, network interface cards, and so forth for sending and receiving various data packets (including audio data packets) in accordance with certain standard communication protocols. The elements of system **600** are coupled to each other via system bus **614**, which may represent multiple buses bridged by one or more bus bridges (not shown). Each of the elements of system **600** performs its conventional functions known in the art. In particular, system memory **604** and mass storage **606** are employed to store a working copy and a permanent copy of the programming instructions implementing the token generation and/or call placement services of the present invention. Except for the teachings of the present invention, the constitution of the elements shown in **Figure 6** is known, and accordingly will not be further described.

As illustrated in **Figure 1**, client computer **102** is coupled to ISP **112** through PSTN extension **104**, communication line **106**, PSTN **140**, communication line **115**, and PSTN extension **113**. In turn, ISP **112** is coupled to Internet **150** by direct connection **114**. Client computer **102** is equipped to communicate with ISP **112** through, for example, a modulation/demodulation (MODEM) device (not shown) coupled to PSTN extension **104**, while client **108** is equipped with a network interface to communicate with ISP **112** through network connection **110**. Rather than being connected to ISP

112, client computer **116** is directly coupled to Internet **150** using direct connection **118**. Each of client computers **102**, **108** and **116** represent a general purpose computer equipped to communicate with Internet **150** accordingly. It should be noted, however, that the various connections between client computers **102**, **108**, and **116**, and PSTN **140** and Internet **150** described above, are merely illustrative and may vary from that which is described. For example, instead of being directly coupled to Internet **150**, client computer **116** may be connected to Internet **150** through ISP **112** without departing from the spirit and scope of the invention.

Handsets **142** and **117** are intended to represent a broad category of conventional telephone handsets known in the art, including but not limited to desktop handsets, cordless handsets and wireless handsets. Handset **142** is coupled to PSTN **140** through PSTN extension **143** and communication line **144**, while handset **117** is coupled to PSTN **140** through PSTN extension **119** and communication line **121**. Communication lines **106**, **144**, **115**, and **121** may simply be plain old telephone service (POTS) communication lines, although other types of communication lines may be used. For example, in the case of communication line **106**, it may be an integrated service digital network (ISDN) line, whereas in the case of communication line **115**, it may be a T1 (1.533 Mbps) or an E1 (2.0488 Mbps) trunk line. Each of communication lines **144** and **121** may be a wireless cellular connection, a Personal Communication Services (PCS) connection, and the like.

PSTN **140** includes a number of Service Switching Points (SSP), Signal Transfer Points (STP), and Service Control Points (SCP) coupled to each other (not shown). PSTN extension **104** is coupled through communication line **106** to a "local" SSP, which in turn is coupled to a number of other "local" PSTN extensions, including for example, PSTN extension **113** if ISP **112** is a "local" ISP served by the same SSP. In addition, the "local" SSP is also coupled to an associated STP, which in turn is coupled to other "remote" SSPs. Each of the "remote" SSPs is coupled to a number of "remote" PSTN extensions, including for example, extension **119** if handset **117** is a "remote" handset served by a "remote" SSP. As is well known in the art, Internet **150** includes a number of networks interconnected by routers, interconnecting the various client computers, web servers and bridgeports together.

Bridgeports **162** and **165** are coupled to Internet **150** through connections **164** and **167** respectively, and to PSTN **140** through communication lines **163** and **166** respectively. Each of bridgeports **162** and **165** represent a server to determine an appropriate destination PSTN extension, such as the PSTN extension of telephone handset **117** for example, as well as an appropriate one of the community of Internet/PSTN changeover servers (e.g., bridgeports **162** and **165**) to place a voice call to a PSTN extension and facilitate the voice call between a user of client computer **102** or **108**, for example, and the user of a PSTN endpoint, such as handset **117**. In one embodiment, bridgeports **162** and **165** facilitate establishment of a voice call between two PSTN extensions in response to an offeree activating the electronic token of the present invention. In an alternative embodiment, in addition to facilitating establishment

of a voice call between two PSTN extensions, at least one of bridgeports **162** and **165** additionally operate to generate the electronic token of the present invention, i.e. serving also as web server **128**. Further details regarding the functionality of bridgeports **162** and **165** may be found in U.S. patent number 5,889,774, titled "Method and Apparatus for Selecting an Internet/PSTN Changeover Server for a Packet Based Phone Call" (having a common assignee with the present application), which is hereby incorporated by reference.

Web server **128** is coupled to Internet **150** through connection **130**, but may also be coupled to PSTN **140** by way of additional connections (not illustrated). In one embodiment, web server **128** is a corporate presence web server equipped to generate the electronic token of the present invention. In one embodiment, web server **128** generates the electronic token based at least in part upon data provided to web server **128** by, for example, client computer **102**. In an alternative embodiment, in addition to generating the electronic token of the present invention, web server **128** further facilitates establishment of a voice call between two PSTN extensions in response to an offeree activating the electronic token, i.e. serving also as one of the bridgeports. For the purposes of this disclosure, any client that generates the electronic token of the present invention, or causes such a token to be generated, will be referred to as an offeror, whereas any client that receives the electronic token representing an offer to participate in a voice call will be referred to as an offeree.

In one embodiment, web server **128** generates the electronic token in association with a contractual relationship previously established between the user of client computer **102** and the third party business entity that owns and/or operates web server **128**. Depending upon the contractual relationship that may exist between the third party operator of web server **128** and an offeror, such as the user of client computer **102** for example, web server **128** may provide the token generation and call connection services of the present invention to the offeror in exchange for payment of a fee to the operator of web server **128** by the offeror. In one embodiment of the invention, the offeror is charged a subscription-based fee, whereby the offeror may make unlimited use of the services provided by the third party within a specified time period. In an alternative embodiment, the offeror is charged a "per use" fee, whereby the offeror is charged a fee each time the offeror utilizes the third party services of the present invention.

For example, assume the user of client computer **102** has entered into a subscription based contractual relationship with a third party business entity that owns and operates web server **128**. In exchange for paying a determined sum of money to the third party, the user of client computer **102** is permitted to cause web server **128** to generate an unlimited number of electronic tokens, each representing an offer to participate in a voice call. Further assume, as described earlier, that client computer **102** is communicatively coupled to web server **128** through PSTN **140**, ISP **112** and Internet **150**. In order to cause web server **128** to generate an electronic token representing an offer to participate in a voice call, client computer **102** would first

establish a communication session with web server **128** using, for example, a predetermined username and password. Once web server **128** has authenticated the identity of client computer **102**, client computer **102** is provided access to standard and/or custom electronic token generation web pages of web server **128**. In one embodiment, client computer **102** is presented with web pages including user-specific data such as user account information, billing information, and personal address book information, for example.

Each electronic token may contain various amounts of contact information. In one embodiment, the electronic token is self-describing in that it has encoded within it, all contact information necessary to facilitate a call between two parties, such as a caller (i.e. offeree) and a callee (i.e. destination party). Such contact information may include PSTN identifiers and/or IP addresses of the caller, the callee, and the bridgeport used to bridge the two calls. In the case of a self-describing electronic token, the bridgeport need not be notified of the electronic token's existence except upon the electronic token becoming activated. In an alternative embodiment, the electronic token has encoded within itself less than all necessary contact information. For example, in a minimal implementation, the electronic token may only include a bridgeport address and a call identifier identifying the call to be established. The bridgeport, whose address is encoded within the electronic token, stores the remaining contact information in association with the call identifier. When the electronic token is activated, the identified bridgeport is contacted and the bridgeport performs a lookup to correlate the stored contact information with the call identifier. By not including all contact information within

the electronic token, the token may be used for anonymous communication. In one embodiment of the invention, the electronic token is implemented as an extended markup language (XML) data structure, however, the electronic token may also be implemented as a hypertext markup language (HTML) data structure, and a standard generalized markup language (SGML) data structure. In other embodiments, other programming languages may be used. **Figure 7** illustrates two exemplary XML data structures each representing an electronic token according to one embodiment of the present invention.

Figure 2 is a flow diagram illustrating one embodiment of a method for establishing a voice communication session between two parties by way of an electronic token of the present invention. In accordance with illustrated embodiment, an offeror (i.e., client computer **102**) causes web server **128** to generate an electronic token representing an offer to participate in a voice call (block **202**). In an alternative embodiment, client **102** includes programming instructions that when executed, cause client computer **102** to generate the electronic token. Once the token representing the offer to participate in a voice call has been generated, the offeror such as client computer **102** transmits the generated token to an offeree such as client computer **116**, in association with an electronic mail message (block **204**). Upon receiving the electronic token from the offeror (block **206**), the offeree activates the token by, for example, selecting a graphical icon representing the token with a user input device such as a mouse (block **208**). Upon activation of the electronic token, a bridgeport designated by the electronic token is contacted. In one embodiment, the contacted

bridgeport places a first voice call to the designated offeree (block **210**), and places a second voice call to the designated destination party (block **212**). In an alternative embodiment, as described in U.S. patent 5,889,774 incorporated by reference above, the contacted bridgeport is one of a community of bridgeports (i.e. bridgeports **162** and **165**) that determine among themselves how best to complete the first and second calls. Once the respective voice calls have been placed to the designated offeree and destination party, the calls are bridged by, for example at least one of bridgeports **162** and **165**, so as to place the designated offeree and destination party in voice communication with each other (block **214**). In one embodiment, the designated party is the offeror, however, the offeror need not necessarily be the destination party.

For example, a mother and father could generate or cause to have generated an electronic token that they would transmit in association with an electronic mail message to their child who is away at college. Upon receiving the electronic token, either embedded within or attached to an email message from the parents, the child could activate the token by, for example, selecting a graphical representation of the token with a computer mouse. Upon activating the token, a first voice call would be placed from a bridgeport (e.g., bridgeport **162** and/or **165**) to the child, and a second voice call would be placed from a bridgeport (e.g., bridgeport **162** and/or **165**) to the parents. Thereafter, the two calls would be bridged to place the parents and the child in voice communication with one another.

In accordance with one embodiment of the invention, the electronic token is generated based at least in part upon data supplied by the offeror. **Figures 3(a-f)** are graphical illustrations, each representing various data input dialogs presented to an offeror in association with generation of one or more the tokens according to one embodiment of the present invention. The dialogs may be generated by a web server, such as web server **128**, or be generated by a local application executing on a client computer, such as client computer **102**. If a web server generates the dialogs, the dialogs may be displayed as part of one or more web pages transmitted to the offeror via the hypertext transfer protocol (HTTP), for example. If the dialogs are generated by a locally executing application, however, the dialogs may appear as one or more windows upon the offeror's desktop and may be accessible to the offeror through one or more menu selections or buttons upon the offeror's desktop.

Figure 3(a) represents one embodiment of a "call-type" data input dialog in which an offeror may select the type of voice call to be placed upon activation of the electronic token by an offeree. According to the illustrated embodiment, an offeror may choose to have the electronic token represent a VoIP-to-VoIP call, a VoIP-to-PSTN call, a PSTN-to-VoIP call, or a PSTN-to-PSTN call. By selecting the VoIP-to-VoIP call option, for example, the offeror indicates that VoIP based calls should be placed to both the offeree and the destination party, whereas by selecting the VoIP-to-PSTN call option, the offeror indicates that a VoIP based call should be placed to the offeree and a PSTN based call should be placed to the destination party. Similarly, the PSTN-to-VoIP call option places a first PSTN based call to the offeree and a second VoIP based call to the

destination party, whereas the PSTN-to-PSTN call option places first and second PSTN based calls to both the offeree and the destination party. In the illustrated embodiment, each of the call selections correspond to a check box, however, radio buttons, image maps and other graphical and text based selection methods known in the art may likewise be used.

Figures 3(b-e) each represent an embodiment of a data input dialog for an offeror to designate an offeree and a destination party to be placed in voice communication with each other. In each of **Figures 3(b-e)** the offeror is presented with a first drop-down selection list for designating an offeree and a second drop-down selection list for designating a destination party. Although drop-down lists are shown, other data entry techniques known in the art may be utilized. Depending upon the type of call selected (e.g. through the dialog of **Figure 3a**), the offeror may designate an offeree and a destination party by name, IP address, and/or PSTN extension. For example, in **Figure 3b**, the offeree is designated by IP address, whereas in **Figure 3e**, the offeree is designated by a PSTN identifier (i.e. telephone number). Some or all of the designation information, such as destination party name, IP address, and phone number may be retained in and accessed from a private/public address book of the offeror client.

Figure 3f represents one embodiment of a "billing" data input dialog in which an offeror may enter billing-specific data to facilitate payment of a fee to a third party. The offeror may, for example, select to pay for the services provided by the third party by

way a credit card, or the offeror may choose to have the fee billed the offeror's pre-existing account. If the offeror selects to pay using a credit card, the offeror's ability to pay for such services is verified by an independent credit agency prior to generation of the token or call placement. In one embodiment, the offeror may choose to have the cost of the electronic token generation and/or call placement services billed to the offeree. Conceptually, this may function much like a "1-900" number, wherein a caller pays a fee to a service provider in order to receive some phone-based service. In this example, the offeror would function as both the service provider and the destination party. In one embodiment, the token is distributed to the offeree by way of solicited or unsolicited email from an advertising or telemarketing offeror. Upon activating the electronic token, the offeree may be presented with various billing options, such as those illustrated in **Figure 3f**.

As alluded to previously, the electronic token generation and call placement services of the present invention may also be used to provide anonymous voice communication between an offeree and a destination party, wherein neither of the parties to the call have knowledge of the other's identity. For example, an Internet dating service could provide the electronic token generation service of the present invention. A user of the dating service would log into a web server, such as web server **128**, and browse through one or more web pages linked to a database to provide the user with various levels of information related to individuals the user may wish to date. Once the user selects one of the potential candidates from the database, web server **128** would generate the electronic token using obfuscated or encrypted code in place of

each user's personal contact information, such as PSTN extension or IP number for example. The dating service would then email the generated electronic token to the selected offeree.

Once the offeree receives the electronic token representing an offer to participate in a voice call with the offeror, the offeree may activate the token to be placed in voice communication with the offeror. In one embodiment, activating the electronic token causes an HTTP post to be transmitted to a remote server, such as web server **128** or bridgeport **162** or **167**, which recognizes this as a token activation by the offeree. The remote server then performs a lookup in a database to correlate the contact information with the appropriate PSTN and/or IP connection information. In one embodiment, the remote server (e.g., web server **128**) uses this connection information to place the offeree and destination party in voice communication with one another, whereas in another embodiment, remote server forwards this connection information to another server (e.g., bridgeports **162** and **165**) to place the offeree and destination party in voice communication with one another. Nevertheless, the identity of the offeree and the offeror/destination party are not revealed to either party.

Figure 4 is a graphical representation illustrating on embodiment of an email application in accordance with the teachings of the present invention. Email application **400** is shown including window title bar **402**, window menu bar **404**, action buttons **406**, email message **408**, and offer icon **410**. Email application **400** represents any of the various electronic mail applications known in the art including, but not limited to Outlook,

available from Microsoft Corp., and Notes, available from IBM Corp., of Armonk, New York, whereas email message **408** represents a text-based message generated by email application **400**. Alternatively, email message **408** may be generated by a web-based email account accessed through a generic web-browser.

Except for the teachings of the present invention, window title bar **402**, window menu bar **404**, and action buttons **406** are WINDOWS™ operating system features known in the art. In one embodiment of the invention, email application **400** includes one or more application specific menu bar entries, and/or one or more application specific action buttons, to facilitate generation of the electronic token. For example, selecting "call-me" menu entry **412**, or activating "call-me" button **413** may cause one or more data input dialogs, such as those described above with respect to **Figures 3(a-f)**, to be displayed. Additional ones of action buttons **406** may provide further functionality with respect to the electronic token generation and call placement services of the present invention. For example, when activated, address button **414** causes an address book to be displayed on the desktop. In one embodiment, the address book is stored locally on the client computer, whereas in an alternative embodiment, the address book is stored on a remote server, such as web server **128**. In one embodiment, address data and contact information displayed in association with action buttons **406** and/or menu bar **404** is used in the generation of the electronic token of the present invention.

Email application **400** also includes email message **408** and offer icon **410**. Email message **408** represents an electronic mail message including address information to route email message **408** to its designated destination as well as message text. Offer icon **410** is a graphical representation of an offer to participate in a voice call that has been attached to email message **408** by, for example, an offeror, such as the mother and father of the previous example. In an alternative embodiment, offer icon **410** is a text-based representation, such as a uniform resource locater (URL), rather than a graphical representation.

Figure 5 is a graphical representation illustrating one embodiment of how a received electronic mail message may be displayed in accordance with the teachings of the present invention. Email message **500** is shown including window title bar **502**, window menu bar **504**, action buttons **506**, message body **508**, and offer icon **510**. Except for the teachings of the present invention, window title bar **302**, and window menu bar **304** are features of the WINDOWS™ operating system. Action buttons **506** represent graphical images that are each linked to a generic email feature or function depending upon the specific email application utilized. In one embodiment, action buttons **506** include a button that when selected by a user, cause one or more data input dialogs to be presented, such as those described above with respect to **Figures 3(a-f)**.

In the foregoing specification, the invention has been described with reference to specific embodiments thereof. It will, however, be evident that various modifications

and changes can be made thereto without departing from the broader spirit and scope of the invention. The specification and drawings are, accordingly, to be regarded in an illustrative rather than a restrictive sense.

CLAIMS

What is claimed is:

1. A computer system comprising:

a storage medium having stored therein a plurality of programming instructions to implement a set of communication services on the computer system for generating on behalf of an offeror client, an electronic token representing an offer to participate in a voice call with a destination party designated by the offeror client, the electronic token to be transmitted by the offeror client in association with an electronic mail message to an offeree, services for receiving on behalf of the offeror client, through a data network link, a notification from the offeree denoting the offeree's acceptance of the offeror client's offer, and services for causing a voice call to be established between the destination party designated by the offeror client and the offeree in response to the offeree's acceptance of the offeror client's offer; and

an execution unit coupled to the storage medium for executing the plurality of programming instructions.

2. The computer system of claim 1, wherein the offeree accepts the offeror client's offer by activating the electronic token displayed on the offeree's computer system.

3. The computer system of claim 2, wherein activating the electronic token comprises selecting the electronic token with a user input device.

4. The computer system of claim 2, wherein the electronic token comprises a graphical icon.

5. The computer system of claim 2, wherein the electronic token comprises an URL.

6. The computer system of claim 1, wherein the voice call comprises at least one of a circuit switched call and a packet based call.

7. The computer system of claim 1, wherein the services for causing the voice call to be established between the destination party designated by the offeror client and the offeree, comprise services for causing a first voice call to be established with the offeree, services for causing a second voice call to be established with the destination party designated by the offeror client, and services for causing the first and second voice calls to be bridged to place the offeree and the destination party designated by offeror client in voice communication with each other.

8. The computer system of claim 7, wherein the destination party designated by the offeror client is the offeror client.

9. The computer system of claim 7, wherein the first and second voice calls each comprise a circuit switched call.

10. The computer system of claim 7, wherein the first voice call comprises a circuit switched call and the second voice call comprises a packet based call.

11. The computer system of claim 7, wherein the first voice call comprises a packet based call and the second voice call comprises a circuit switched call.

12. The computer system of claim 7, wherein the first and second voice calls each comprise a packet based call.

13. The computer system of claim 7, wherein the electronic token is generated on behalf of the offeror client based at least in part upon data provided to the computer system be the offeror client, the data associated with at least one of a PSTN extension corresponding to the destination party designated by the offeror client and a PSTN extension corresponding to the offeree.

14. The computer system of claim 13, wherein the PSTN extension corresponding to the offeror client is obscured to prevent the offeree from identifying the PSTN extension associated with the destination party designated by the offeror client.

15. The computer system of claim 7, further comprising programming instructions to implement services for receiving payment information from the offeror client in association with at least one of the first and second calls, and services for verifying the

ability of the offeror client to pay an indicated amount, prior to causing the first and second voice calls to be bridged.

16. A method comprising:

transmitting by an offeror party in association with an electronic mail message, an electronic token representing an offer to participate in a voice call with a destination party;

receiving by an offeree party, the electronic token representing the offer to participate in the voice call with the destination party; and

bridging the voice call between the offeree party and the destination party, based at least in part upon the offeree party accepting the offer to participate in the voice call.

17. The method of claim 16, wherein the offeree party accepts the offer to participate in the voice call by activating the electronic token representing the offer.

18. The method of claim 17, wherein activating the electronic token includes selecting the electronic token with a user input device.

19. The method of claim 17, wherein the electronic token comprises a graphical icon.

20. The method of claim 17, wherein the electronic token comprises an URL.

21. The method of claim 16, wherein the destination party is the offeror party.

22. The method of claim 16, wherein the voice call comprises at least one of a circuit switched call and a packet based call.

23. The method of claim 22, wherein bridging the voice call further comprises:

establishing a first PSTN call with the offeree;

establishing a second PSTN call with the destination party; and

bridging the first and the second PSTN calls.

24. The method of claim 22, wherein bridging the voice call further comprises:

establishing a first PSTN call with the offeree;

establishing a second VIOP call with the destination party; and

bridging the first PSTN call and the second VIOP call.

25. The method of claim 22, wherein bridging the voice call further comprises:

establishing a first VIOP call with the offeree;

establishing a second PSTN call with the destination party; and

bridging the first VIOP call and the second PSTN call.

26. The method of claim 22, wherein bridging the voice call further comprises:

establishing a first VIOP call with the offeree;

establishing a second VIOP call with the destination party; and

bridging the first and the second VIOP calls.

27. The method of claim 16, wherein the electronic token is generated by a third party based at least in part upon data provided to the third party by the offeror party in association with a contractual relationship previously established between the third party and the offeror party.

28. The method of claim 27, wherein the data provided to the third party by the offeror party includes a first PSTN extension corresponding to the offeree party and a second PSTN extension corresponding to the destination party.

29. The method of claim 28, wherein the second PSTN extension is obscured to prevent the offeree party from identifying the second PSTN extension.

30. The method of claim 27, wherein the data provided to the third party includes billing information.

31. The method of claim 30, wherein the voice call is bridged only after payment verification is received by the third party from an independent party assuring that the offeror party will pay for the cost of the call.

32. A computer system comprising:

a storage medium having stored therein a plurality of programming instructions to implement a set of communication services on the computer system for receiving on

behalf of an offeror client, through a data network link, a notification from an offeree denoting the offeree's acceptance of the offeror client's offer to participate in a voice call with a designated destination party, the offer communicated to the offeree in association with an electronic mail message, and for causing the voice call to be established between the designated destination party and the offeree in response to the offeree's acceptance of the offeror client's offer; and

an execution unit coupled to the storage medium for executing the plurality of programming instructions.

33. The computer system of claim 32, wherein destination party is designated by the offeror.

34. The computer system of claim 32, wherein the offeree party accepts the offer to participate in the voice call by activating the electronic token representing the offer.

35. The computer system of claim 32, wherein the services for causing the voice call to be established between the designated destination party and the offeree, comprise services for causing a first voice call to be established with the offeree, for causing a second voice call to be established with the designated destination party, and for causing the first and second voice calls to be bridged to place the offeree and the designated destination party in voice communication with each other.

36. A computer system comprising:

a storage medium having stored therein a plurality of programming instructions to implement a set of communication services on the computer system for generating on behalf of an offeror client, an electronic token representing an offer to participate in a voice call with a designated destination party, the electronic token to be transmitted to an offeree in association with an electronic mail message; and

an execution unit coupled to the storage medium for executing the plurality of programming instructions.

ABSTRACT

A method and apparatus for establishing a voice call by way of an electronic mail (email) message is provided. According to one embodiment of the invention, a first party (i.e. offeror), generates or causes to be generated, an electronic token representing an offer to participate in a voice which is transmitted to an offeree party in association with an email message. Upon receiving the electronic token, the offeree has the option of accepting the offer by activating the electronic token. When the offeree activates the electronic token, a first voice call is established with the offeree and a second voice call is established with a destination party identified by the offeror. Once the two calls have been established, they are bridged together to place the offeree in voice communication with the destination party. In one embodiment, the destination party is the offeror.

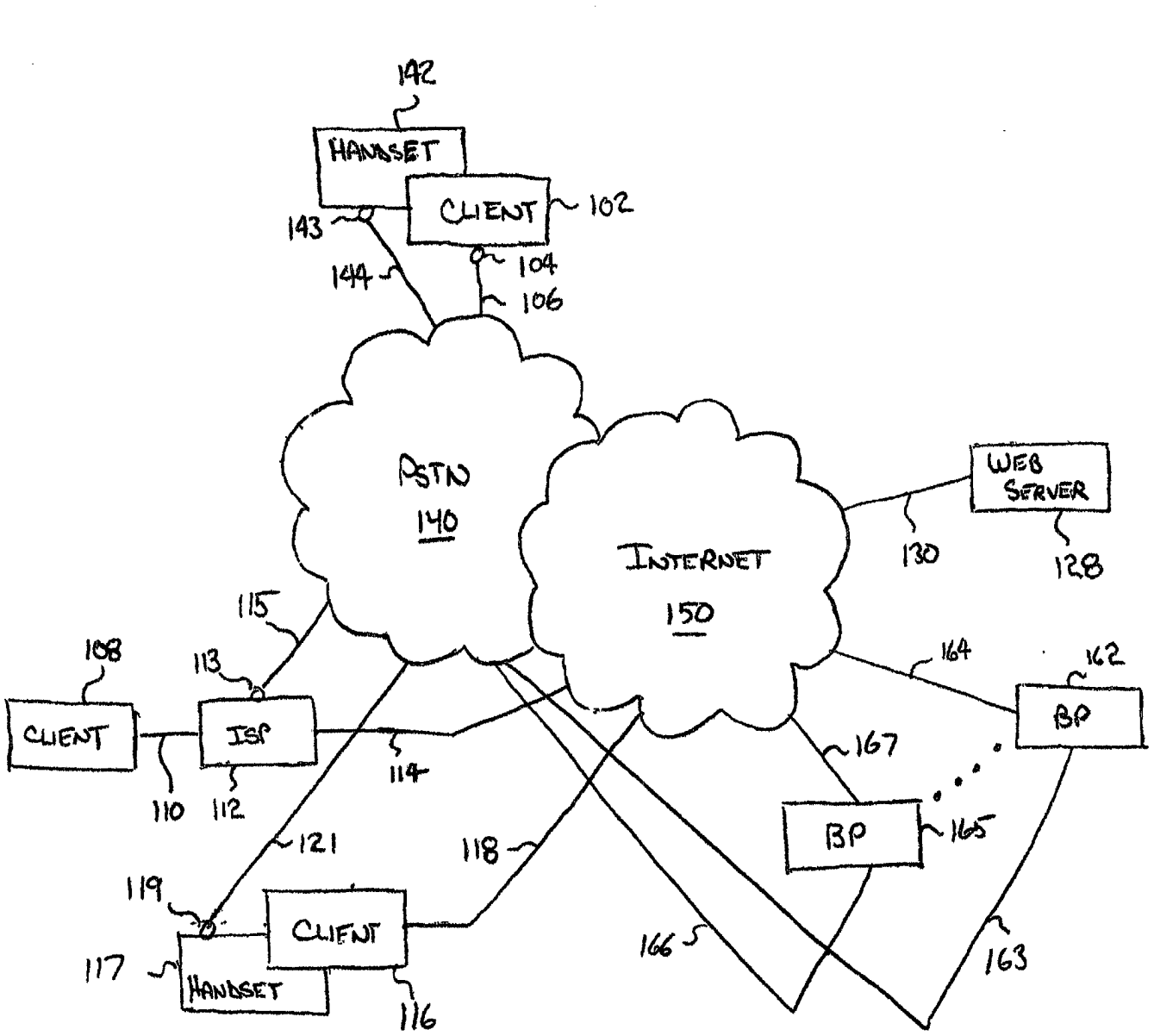

FIG. 1

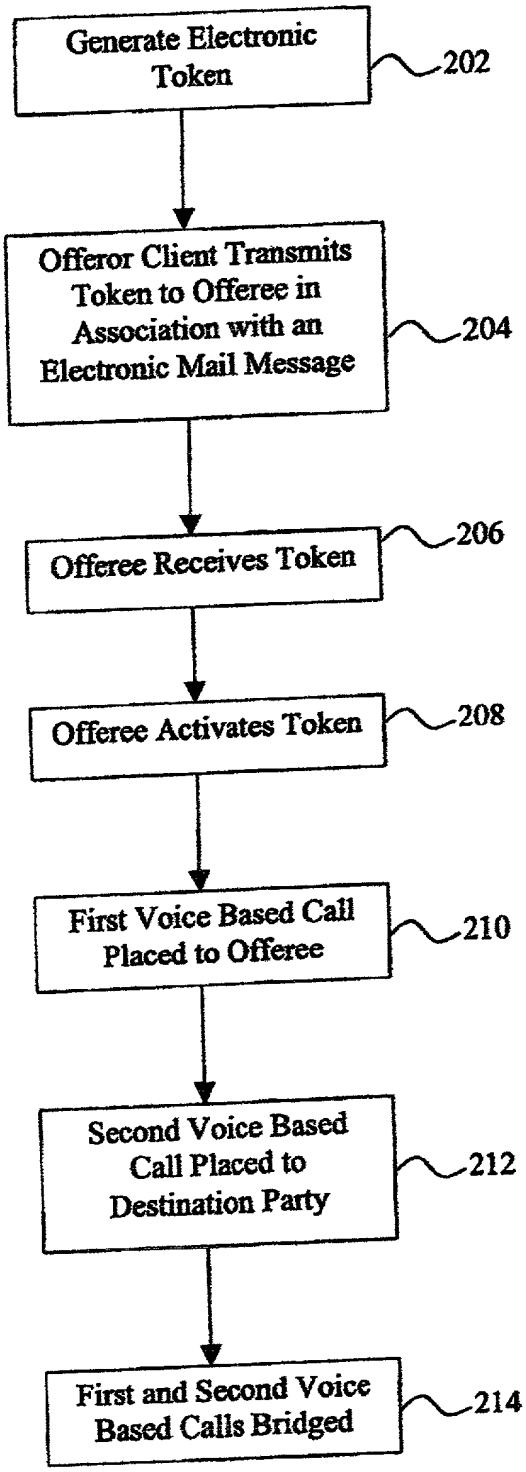
Generate Electronic Token
202
Offeror Client Transmits Token to Offeree in Association with an Electronic Mail Message
204
Offeree Receives Token
206
Offeree Activates Token
208
First Voice Based Call Placed to Offeree
210
Second Voice Based Call Placed to Destination Party
212
First and Second Voice Based Calls Bridged
214

FIG. 2

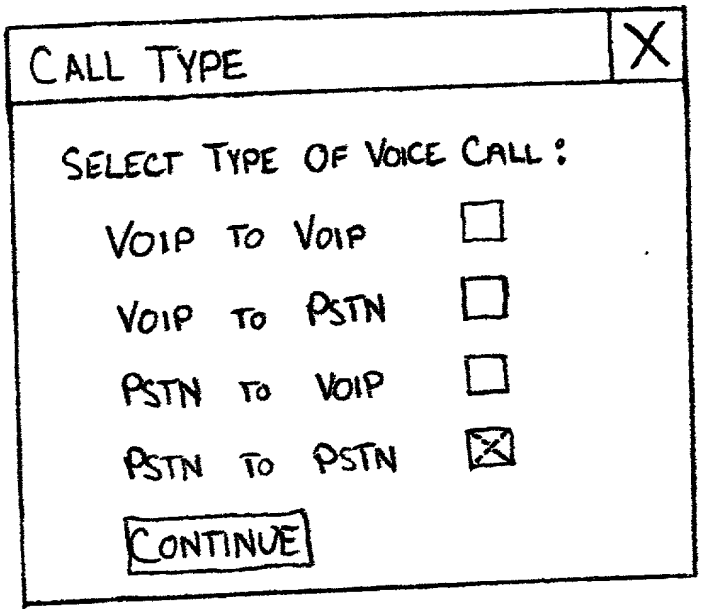

Fig. 3(a)

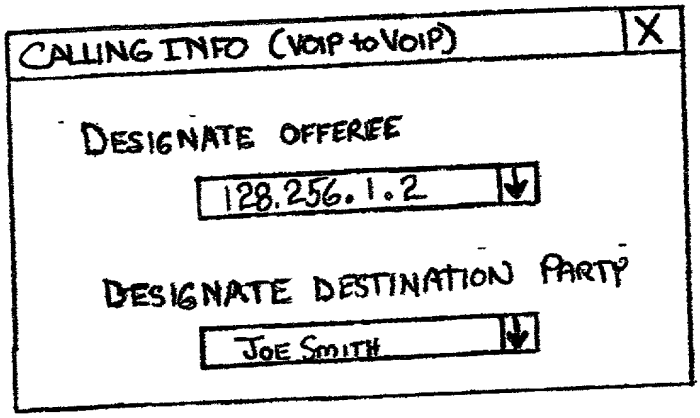

Fig. 3(b)

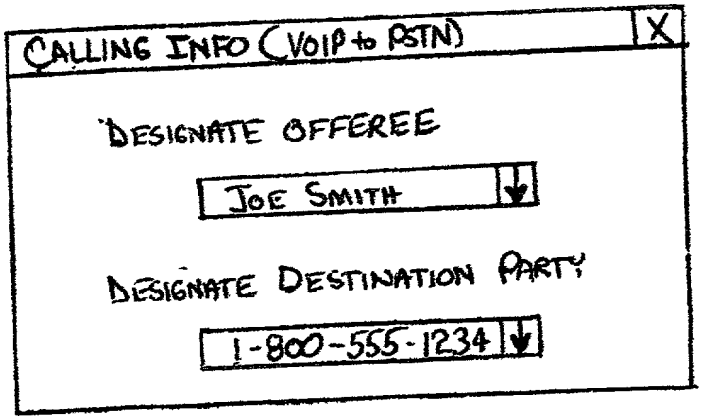

Fig 3(c)

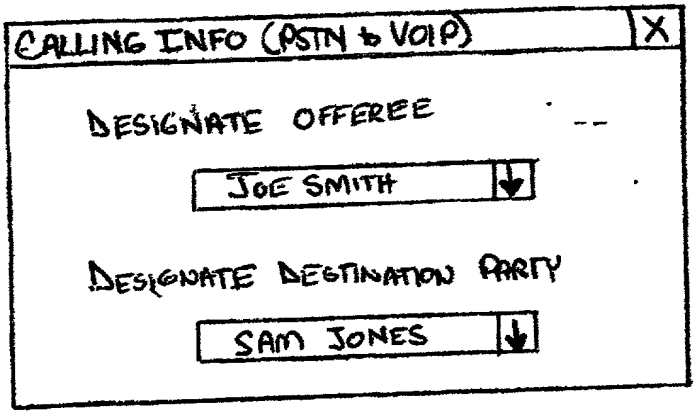

Fig. 3(d)

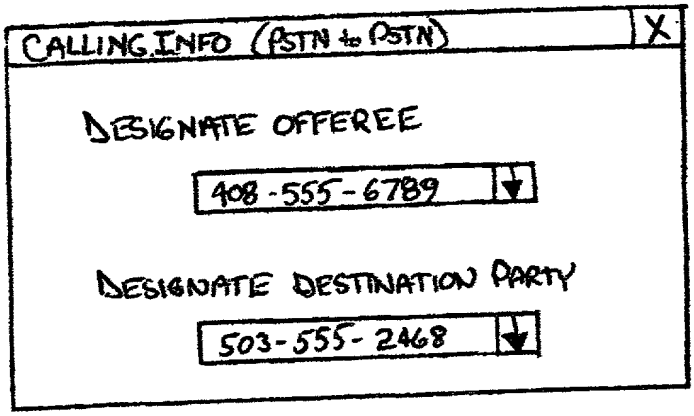

Fig. 3(e)

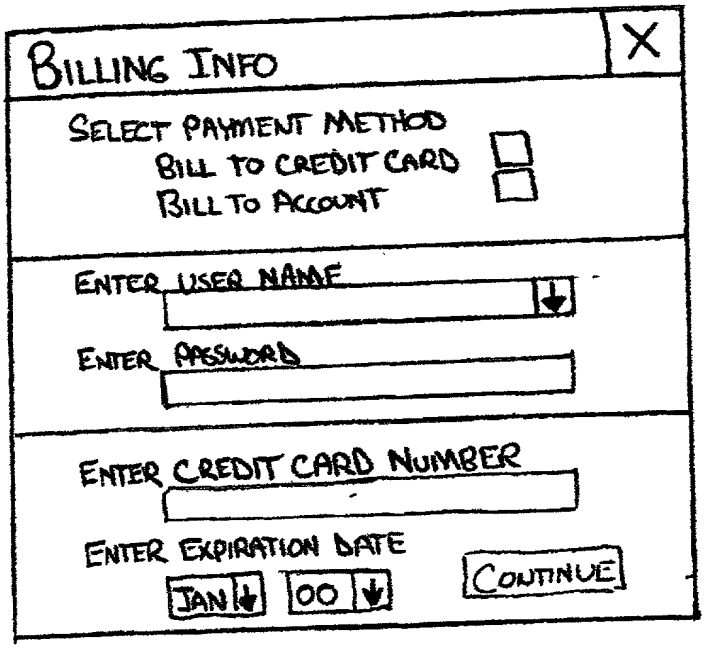

Fig. 3(f)

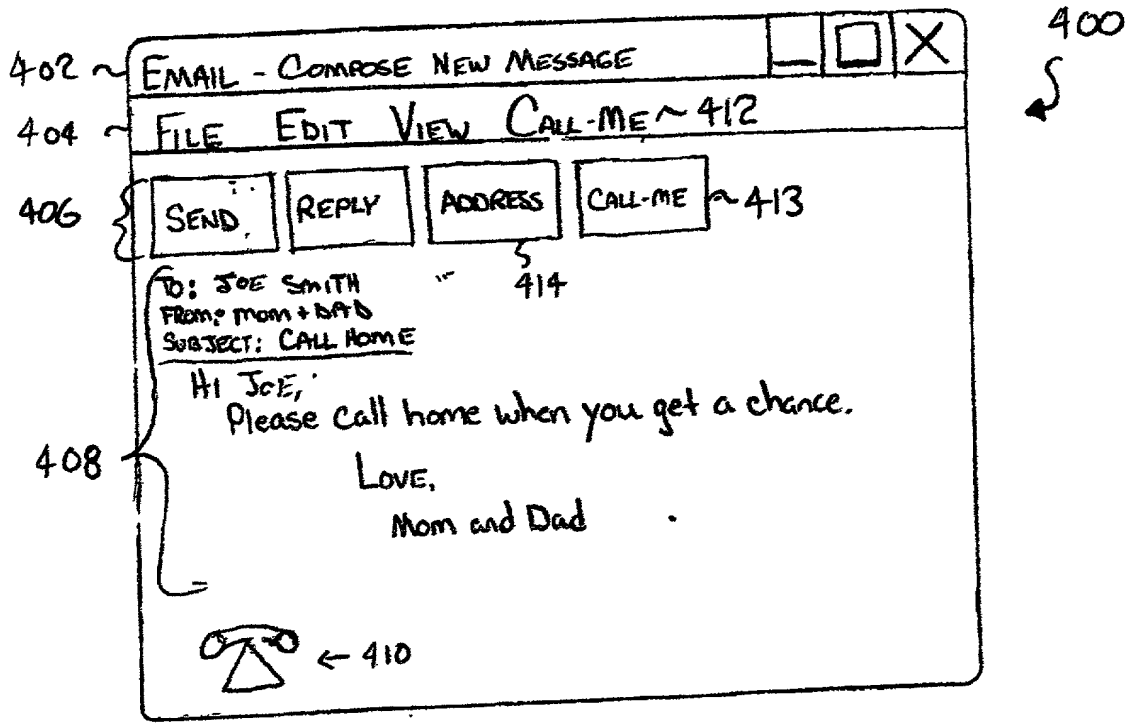
400
402
EMAIL - COMPOSE NEW MESSAGE
404
FILE EDIT VIEW CALL-ME
412
406
SEND
REPLY
ADDRESS
CALL-ME
413
414
TO: JOE SMITH
FROM: MOM + DAD
SUBJECT: CALL HOME
HI JOE,
Please call home when you get a chance.
LOVE,
Mom and Dad
408
410

FIG. 4

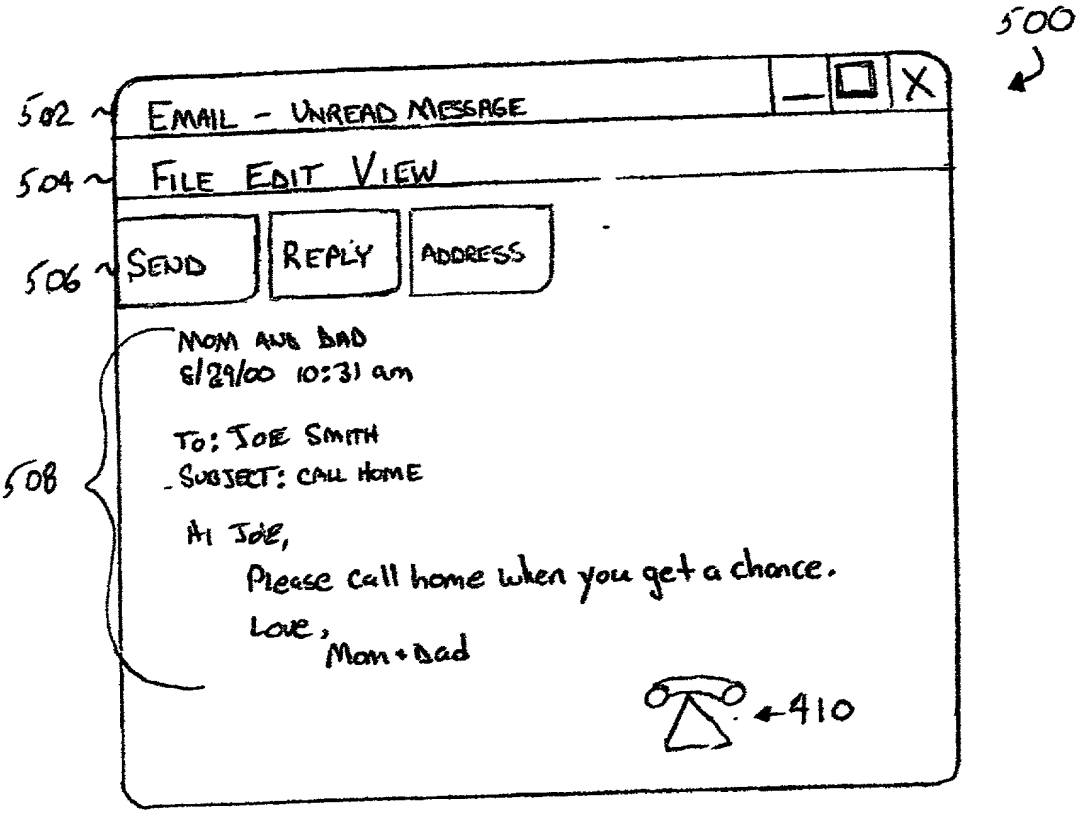
500
502
EMAIL - UNREAD MESSAGE
504
FILE EDIT VIEW
506
SEND
REPLY
ADDRESS
MOM AND DAD
6/29/00 10:31 am
TO: JOE SMITH
SUBJECT: CALL HOME
508
HI JOE,
Please call home when you get a chance.
LOVE,
Mom + Dad
410

FIG. 5

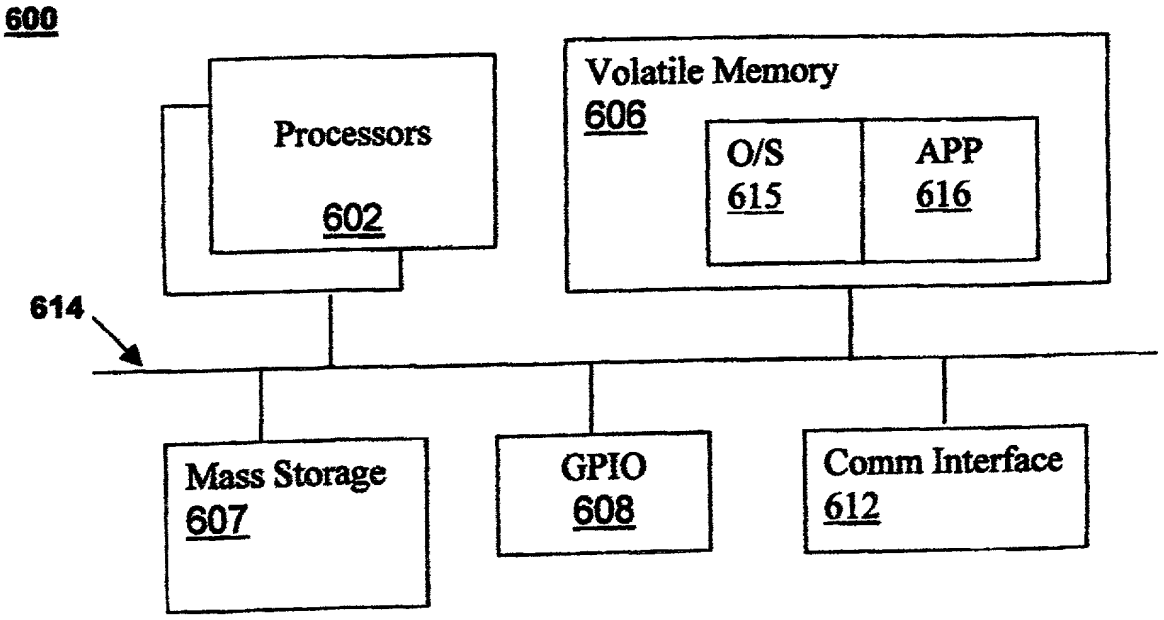
600
Processors
602
Volatile Memory
606
O/S
615
APP
616
614
Mass Storage
607
GPIO
608
Comm Interface
612

FIG. 6

```
<Ptt Token>
     <CALLER NAME> John Smith </CALLER NAME>
     <CALL1 TYPE> PSTN </CALL1 TYPE>
     <CALLER PN> 408-555-6789 </Caller PN>
     <CALLEE NAME> Mom & Dad Smith </CALLEE NAME>
     <CALL2 TYPE> PSTN </CALL2 TYPE>
     <CALLEE PN> 503-555-2468 </CALLEE PN>
</Ptt Token>

<Ptt Token>
     <CALLER NAME> John Smith </CALLER NAME>
     <CALL1 TYPE> VOIP </CALL1 TYPE>
     <CALLER IP> 128.256.1.2 </Caller IP>
     <CALLEE NAME> Mom & Dad Smith </CALLEE NAME>
     <CALL2 TYPE> PSTN </CALL2 TYPE>
     <CALLEE PN> 503-555-2468 </CALLEE PN>
</Ptt Token>
```

FIGURE 7

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below, next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

METHOD AND APPARATUS FOR ESTABLISHING A VOICE CALL BY WAY OF AN ELECTRONIC MAIL MESSAGE

the specification of which

__XX__ is attached hereto.
_____ was filed on _____ as
United States Application _____
or PCT International Application Number_____
and was amended on _____.
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above.

I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d), of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
(Number)	(Country)	(Day/Month/Year Filed)	Yes	No
(Number)	(Country)	(Day/Month/Year Filed)	Yes	No
(Number)	(Country)	(Day/Month/Year Filed)	Yes	No

I hereby claim the benefit under title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below

(Application Number)	(Filing Date)
(Application Number)	(Filing Date)

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Number)	(Filing Date)	(Status - patented, pending, abandoned)
(Application Number)	(Filing Date)	(Status - patented, pending, abandoned)

I hereby appoint Aloysius T. C. AuYeung, Reg. No. 35,432; Robert A. Diehl, Reg. No. 40,992; Jason K. Klindtworth, Reg. No. 47,211; Robert T. Watt, Reg. No. 45,890; as my patent attorney/agent; with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Send correspondence to Jason K. Klindtworth (Name of Attorney or Agent), Columbia IP Law Group, LLC, 4900 SW Meadows Road, Suite 109, Lake Oswego, Oregon 97035, and direct telephone calls to Jason K. Klindtworth (Name of Attorney or Agent), 503-534-2800.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Sole/First Inventor: Jeffrey B. Sponaugle

Inventor's Signature: _____ Date: _____

Residence: _____ (City, State) Citizenship: _____ (Country)

Post Office Address: _____

_____

Full Name of Joint/Second Inventor: Kenneth L. Keeler

Inventor's Signature: _____ Date: _____

Residence: _____ Citizenship: _____

(City, State) (Country)

Post Office Address: _____

_____

Full Name of Joint/Third Inventor: Ajit Pendse

Inventor's Signature: _____ Date: _____

Residence: _____ Citizenship: _____

(City, State) (Country)

Post Office Address: _____

_____

Full Name of Joint/Fourth Inventor: _____

Inventor's Signature: _____ Date: _____

Residence: _____ Citizenship: _____

(City, State) (Country)

Post Office Address: _____

_____

Full Name of Joint/Fifth Inventor: _____

Inventor's Signature: _____ Date: _____

Residence: _____ Citizenship: _____

(City, State) (Country)

Post Office Address: _____

_____

Full Name of Joint/Sixth Inventor: _____

Inventor's Signature: _____ Date: _____

Residence: _____ Citizenship: _____

(City, State) (Country)

Post Office Address: _____

_____

Title 37, Code of Federal Regulations, Section 1.56
Duty to Disclose Information Material to Patentability

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclosure information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclosure all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

(1) Prior art cited in search reports of a foreign patent office in a counterpart application, and

(2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made or record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or

(2) It refutes, or is inconsistent with, a position the applicant takes in:

(i) Opposing an argument of unpatentability relied on by the Office, or

(ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

(1) Each inventor named in the application;

(2) Each attorney or agent who prepares or prosecutes the application; and

(3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.